

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
24 December 2003 (24.12.2003)

PCT

(10) International Publication Number
WO 2003/106954 A3

(51) International Patent Classification⁷: **G01L 21/12**

(21) International Application Number:
PCT/GB2003/002452

(22) International Filing Date: 6 June 2003 (06.06.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0213611.7 13 June 2002 (13.06.2002) GB

(71) Applicant (for all designated States except US): **THE BOC GROUP PLC** [GB/GB]; Chertsey Road, Windlesham, Surrey GU20 6HJ (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **PACKER, Kenneth, George** [GB/GB]; 3 Mayfield Place, Eastbourne, East Sussex BN22 8XJ (GB). **KEY, Matthew** [GB/GB]; c/o 20 Pinchmill Way, Sharnbrook, Bedford MK44 1PJ (GB).

(74) Agents: **TOWNSEND, Victoria, Jayne et al.**; Fry Heath & Spence LLP, The Gables, Massetts Road, Horley, Surrey RH6 7DQ (GB).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

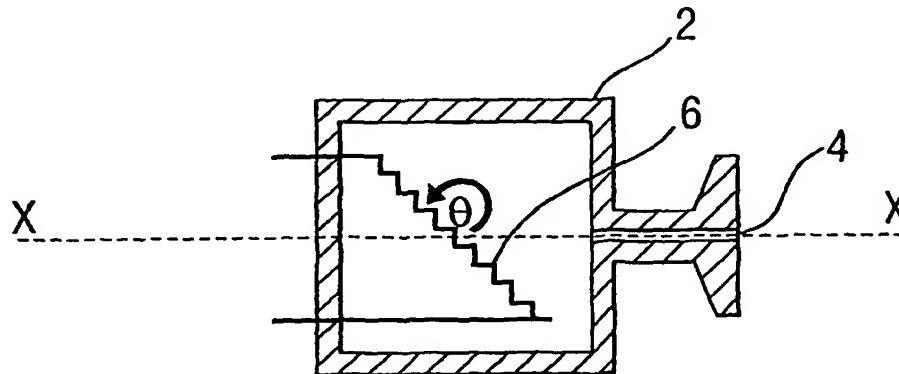
Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
3 June 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **VACUUM GAUGE**



(57) Abstract: A thermal conductivity type pressure gauge comprises a gauge head (2) being rotatably mountable in a vessel whose environmental pressure is to be measured and an elongate electrical filament (6) mounted in the gauge head, the gauge head (2) having an inlet wherethrough the electrical filament is exposed to the environmental pressure within the vessel and the filament (6) having directional component lengths in two orthogonal axes, one of the orthogonal axes X-X being parallel to the axis of rotation of the gauge head (2).

INTERNATIONAL SEARCH REPORT

PCT/GB 03/02452

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G01L21/12

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 827 311 A (MINI OF SUPPLY) 3 February 1960 (1960-02-03) the whole document	1-7,9
A	US 4 729 241 A (SCHUBERT HANS-JOACHIM ET AL) 8 March 1988 (1988-03-08) abstract; figure 1	1-9
A	DE 10 94 341 B (CONS ELECTRODYNAMICS CORP) 8 December 1960 (1960-12-08) the whole document	1-9

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- *Z* document member of the same patent family

Date of the actual completion of the international search

31 March 2004

Date of mailing of the international search report

08/04/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax (+31-70) 340-3016

Authorized officer

Zafiropoulos, N

INTERNATIONAL SEARCH REPORT

Information on patent family members

PCT/GB 03/02452

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
GB 827311	A	03-02-1960	NONE	
US 4729241	A	08-03-1988	DE 3541178 A1 JP 62129730 A	27-05-1987 12-06-1987
DE 1094341	B	08-12-1960	NONE	